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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,405	06/26/2003	Joseph Merenda	SKY-010	5479

7590 07/27/2004

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EXAMINER

A, MINH D

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,405

Applicant(s)

MERENDA ET AL.

Examiner

Minh D A

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 8-13, 15-16 and 19 are rejected under 35 U.S.C. 102(b) as being unpatentable by Gothard et al (US 6,369,770).

Regarding claim 1, Gothard discloses an antenna comprising: a plurality of phased array elements (10) adapted to synthesize a radiation pattern for communicating with neighboring nodes of a mesh network; and a drive circuit (72) for supplying microwave power to the plurality of phased array elements (10) and for controlling a directionality of the radiation pattern. See figures 1-2b, col.4, lines 15-67 to col.6, lines 1-36.

Regarding claim 4, Gothard discloses wherein the directionality is switched in P discrete directions, where P is an integer greater than 1. See figures 2-4.

Regarding claim 8, Gothard discloses the drive circuit (72) is coupled to a transceiver and modem circuit. See col.4, lines 5-29.

Regarding claims 9-10, Gothard discloses the drive circuit and plurality of phased array elements, where the enclosure comprises an adhesive element and wherein the adhesive element is adapted for attaching the enclosure to a flat surface. See figure 2-2b.

Regarding claim 11, Gothard discloses a multi-layer circuit board that support the plurality of antenna elements, a ground plane, and the driver circuit. See figures 1-4.

Regarding claim 12, Gothard discloses substrate for supporting the plurality of phased array elements. See col.2, lines 38-67 to col.3, lines 1-25.

Regarding claim 13, Gothard discloses an antenna network comprising:
a multi-layer circuit board having a first side and a second side, with a ground plane formed within the multi-layer circuit board; an antenna array (10), affixed to the first side of the multi-layer circuit board, having M x N array of antenna elements, where M and N are integers greater than 1, a driver circuit, affixed to the second side of the multi-layer circuit board, having a power divider (60) that divides an input microwave signal into M signal paths, a plurality of phase shift circuits (56-n) are coupled to M-1 paths and the output of each phase shift circuit (56-n) is coupled to an antenna element (10), one of the M signal paths is coupled directly to an antenna element. See figures 1-4, col.4, lines 30-67 to col.8, lines 1-2.

Regarding claim 15, Gothard discloses wherein the power divider (60) comprises attenuation in each of the M signal paths. See figures 2-4.

Regarding claim 16, Gothard discloses wherein the phase shift circuits (56-n) comprise switched hybrid couplers that, in response to a control signal, phase shift the signals on the M-1 paths by a discrete phase amount. See figures 1-4.

Regarding claim 19, Gothard discloses a modem circuit and a transceiver circuit. See col.4, lines 5-29.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3,5-7, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Gothard (US 6,369,770).

Regarding claims 2-3,5-7, 14, 18, Gothard disclose the claimed invention except for said enclosure is approximately 3 cm thick or dimensions of about 25 cm by about 20 cm or degrees or the elevation of the radiation pattern is fixed or wherein M is 5 and N is 8 or degrees. It would have been an obvious matter of design choice to employ the enclosure is approximately 3 cm thick or dimensions of about 25 cm by about 20 cm or degrees or the elevation of the radiation pattern is fixed or wherein M is 5 and N is 8 or degrees, since applicant has not disclosed that the enclosure is approximately 3 cm thick or dimensions of about 25 cm by about 20 cm or degrees or the elevation of the radiation pattern is fixed or wherein M is 5 and N is 8 or degrees solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the enclosure is approximately 3 cm thick or dimensions of about 25 cm by about 20 cm or degrees or the elevation of the radiation pattern is fixed or wherein M is 5 and N is 8 or degrees.

Conclusion

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5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hong (US 6,266,011) and Ben-bassat et al. (US 6,535,545) are cited to show an array antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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7/25/04


JAMES VANNUCCI
PRIMARY EXAMINER